

IN THE CLAIMS:

1. (Cancelled)
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16. (Cancelled)
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18. (Cancelled)
19. (Cancelled)

20. (Previously presented) An automatic transmission for a vehicle comprising:

a rotatably driven input shaft;

a decelerating first planetary gear unit comprising an input rotary component that receives as input the rotation of said input shaft, a decelerated rotary component that rotates at a speed decelerated from the speed of rotation of the input rotary component and an intermediate component for transfer of rotation from said input rotary component to said decelerated rotary component;

a second planetary gear unit comprising a first rotary element, a second rotary element, a third rotary element and a fourth rotary element, said second planetary gear unit receiving input of the decelerated rotation of said decelerated rotary component;

a first clutch for connecting and disconnecting said input shaft to and from said second rotary element;

a second clutch for connecting and disconnecting said input shaft to and from said third rotary element;

a third clutch, located between said input shaft and said input rotary component, for operating the rotation of said input rotary component;

a first brake for braking said intermediate component; and

an output member for outputting the rotation of said fourth rotary element to drive wheels of the vehicle;

wherein said automatic transmission provides at least five forward speeds and one reverse speed, and said first clutch and said second clutch are engaged together in fourth speed forward;

wherein said first planetary gear unit and said third clutch are located on one axial side of said second planetary gear unit;

wherein said first clutch and said second clutch are located on a side of said second planetary gear unit axially opposite said one side; and

wherein said output member is disposed between (1) said second planetary gear unit and (2) said first planetary gear unit and said third clutch.

21. (Previously presented) An automatic transmission according to Claim 40, wherein said engaging means is a first brake for braking said intermediate component.

22. (Previously presented) An automatic transmission according to Claim 40, wherein said engaging means is a third clutch located between said input shaft and said input rotary component, and a first brake for braking said intermediate component.

23. (Previously presented) An automatic transmission according to Claim 40, wherein said engaging means is a third clutch located between said input shaft and said input rotary component.

24. (Previously presented) An automatic transmission according to Claim 20, further comprising a second brake for fixing the first rotary element, said first rotary element receiving input of the decelerated rotation;

wherein said second brake and said third clutch each comprise friction members

and a hydraulic servo for engaging said friction members; and

wherein the friction members of said third clutch are disposed radially inward of the friction members of said second brake.

25. (Previously presented) An automatic transmission according to Claim 20, wherein said third clutch is located between said first planetary gear unit and said output member; and

wherein said third clutch includes a hub oriented to open toward said first planetary gear unit.

26. (Previously presented) An automatic transmission according to Claim 20, further comprising:

a transmitting unit for linking said decelerated rotary component and said first rotary element; and

wherein said third clutch is located radially inward of said transmitting unit.

27. (Previously presented) An automatic transmission according to Claim 20, wherein said third clutch is operated by a hydraulic servo on said input shaft in communication with an oil path in said input shaft.

28. (Currently amended) An automatic transmission according to Claim 20, wherein said third clutch comprises:

friction members and a hydraulic servo for said third clutch, wherein said hydraulic servo for said third clutch is located on the side of said friction members axially opposite said first planetary gear unit; and  
a drum member connected to said input shaft.

29. (Previously presented) An automatic transmission according to Claim 21 further comprising:

a case housing said first and second planetary gear units;  
wherein said first brake is located on the side of said first planetary gear unit axially opposite said second planetary gear unit; and  
wherein the hydraulic servo of said first brake comprises a cylinder formed in the case.

30. (Previously presented) An automatic transmission according to Claim 21, further comprising:

a second brake for fixing the first rotary element against rotation and wherein said decelerated rotation is input to said first rotary element;  
wherein said first brake and said second brake each comprise friction members and a hydraulic servo for engaging said friction members; and  
wherein the hydraulic servo of said first brake is located radially inward of the hydraulic servo of said second brake, and the friction members of said first brake are intermeshed with members extending between the hydraulic servo of said first brake

and the hydraulic servo of said second brake.

31. (Previously presented) An automatic transmission according to Claim 20, further comprising:

a second brake for fixing said first rotary element, wherein said decelerated rotation is input to said first rotary element, and wherein said engaging means radially overlaps said second brake.

32. (Previously presented) An automatic transmission according to Claim 20, wherein said first clutch is engaged in slow to medium speeds.

33. (Previously presented) An automatic transmission according to Claim 20, wherein said first clutch comprises friction members, a hydraulic servo that engages said friction members, a clutch drum and a hub unit; and

wherein said drum is connected to said input shaft, and said hub unit is connected to said second rotary element.

34. (Previously presented) An automatic transmission according to Claim 20 further comprising:

a transmitting member that connects said decelerated rotary component of said first planetary gear unit and said first rotary element of said second planetary gear unit, said transmitting member including an axially extending portion located radially inward

of said output member.

35. (Cancelled)

36. (Canceled)

37. (Previously presented) An automatic transmission according to Claim 40 , wherein:

in first speed forward, said first clutch and said third brake are engaged;

in second speed forward, said first clutch and said second brake are engaged;

in third speed forward, the decelerated rotation is input to said first rotary element from said decelerated rotary component, and said first clutch is engaged;

in fourth speed forward, said first clutch and said second clutch are both engaged;

in fifth speed forward, decelerated rotation is input to said first rotary element from said decelerated rotary component, and said second clutch is engaged;

in sixth speed forward, said second clutch and said second brake are engaged;  
and

in first speed reverse, decelerated rotation is input to said first rotary element from said decelerated rotary component, and said third brake is engaged.

38. (Previously presented) An automatic transmission for a vehicle comprising:

a rotatably driven input shaft;

a decelerating first planetary gear unit comprising an input rotary component that receives as input the rotation of said input shaft, a decelerated rotary component that rotates at a speed decelerated from the speed of rotation of the input rotary component and an intermediate component for transfer of rotation from said input rotary component to said decelerated rotary component;

a second planetary gear unit comprising a first rotary element, a second rotary element, a third rotary element and a fourth rotary element, said second planetary gear unit receiving input of the decelerated rotation of said decelerated rotary component;

a first clutch for connecting and disconnecting said input shaft to and from said second rotary element;

a second clutch for connecting and disconnecting said input shaft to and from said third rotary element;

a third clutch, located between said input shaft and said input rotary component, for operating the rotation of said input rotary component or the rotation of said intermediate component; and

an output member for outputting the rotation of said fourth rotary element to drive wheels of the vehicle;

wherein said automatic transmission provides at least five forward speeds and one reverse speed, and said first clutch and said second clutch are engaged together in fourth speed forward;

wherein said first planetary gear unit and said third clutch are located on one axial side of said second planetary gear unit;



wherein said first clutch and said second clutch are located on a side of said second planetary gear unit axially opposite said one side; and

wherein said output member is disposed between (1) said second planetary gear unit and (2) said first planetary gear unit and said third clutch.

39. (Previously presented) An automatic transmission for a vehicle comprising:

a rotatably driven input shaft;

a decelerating first planetary gear unit comprising an input rotary component that receives as input the rotation of said input shaft, a decelerated rotary component that rotates at a speed decelerated from the speed of rotation of the input rotary component and an intermediate component for transfer of rotation from said input rotary component to said decelerated rotary component;

a first brake for braking said intermediate component;

a second planetary gear unit comprising a first rotary element, a second rotary element, a third rotary element and a fourth rotary element, said second planetary gear unit receiving input of the decelerated rotation of said decelerated rotary component;

a first clutch for connecting and disconnecting said input shaft to and from said second rotary element;

a second clutch for connecting and disconnecting said input shaft to and from said third rotary element;

an output member for outputting the rotation of said fourth rotary element to drive wheels of the vehicle; and

a case housing said first and second planetary gear units; and

wherein said first brake is located on the side of said first planetary gear unit axially opposite said second planetary gear unit;

wherein the hydraulic servo of said first brake comprises a cylinder formed in the case;

wherein said automatic transmission provides at least five forward speeds and one reverse speed, and said first clutch and said second clutch are engaged together in fourth speed forward;

wherein said first planetary gear unit and said first brake are located on one axial side of said second planetary gear unit;

wherein said first clutch and said second clutch are located on a side of said second planetary gear unit axially opposite said one side; and

wherein said output member is disposed between (1) said second planetary gear unit and (2) said first planetary gear unit and said first brake.

40. (Currently amended) An automatic transmission for a vehicle comprising:

a rotatably driven input shaft;

a decelerating first planetary gear unit comprising an input rotary component that receives as input the rotation of said input shaft, a decelerated rotary component that rotates at a speed decelerated from the speed of rotation of the input rotary component and an intermediate component for transfer of rotation from said input rotary component to said decelerated rotary component;

engaging means for controlling ~~operating~~ the rotation of said input rotary component or the rotation of said intermediate component;

a first clutch;

a second clutch;

a multiple type second planetary gear unit comprising:

a long pinion;

a short pinion which meshes with said long pinion;

a first sun gear which meshes which meshes with said long pinion, which receives as input the decelerated rotation of said decelerated rotary component, and which is fixed against rotation by engagement of a third brake;

a second sun gear which receives input of rotation from said input shaft by engagement of said first clutch and which meshes with said short pinion;

a carrier which receives input of rotation from said input shaft by engagement of said second clutch, and which is fixed against rotation by engagement of a third brake; and

a ring gear linked to said output member and meshing with said long pinion;

an output member for outputting the rotation of said ring gear to drive wheels of the vehicle; and

wherein said automatic transmission provides at least six forward speeds and one reverse speed, and said first clutch and said second clutch are engaged together in fourth speed forward;

wherein said first planetary gear unit and said engaging means are located on one axial side of said second planetary gear unit;

wherein said first clutch and said second clutch are located on a side of said second planetary gear unit axially opposite said one side; and

wherein said output member is disposed between (1) said second planetary gear unit and (2) said first planetary gear unit and said engaging means.

41. (New) An automatic transmission for a vehicle comprising:

a rotatably driven input shaft;

a decelerating first planetary gear unit comprising an input rotary component that receives as input the rotation of said input shaft, a decelerated rotary component that rotates at a speed decelerated from the speed of rotation of the input rotary component and an intermediate component for transfer of rotation from said input rotary component to said decelerated rotary component;

engaging means for controlling rotation of said input rotary component or the rotation of said intermediate component;

a second planetary gear unit comprising a first rotary element, a second rotary element, a third rotary element and a fourth rotary element, said second planetary gear unit receiving input of the decelerated rotation of said decelerated rotary component;

a first clutch for connecting and disconnecting said input shaft to and from said second rotary element;

a second clutch for connecting and disconnecting said input shaft to and from

said third rotary element; and

an output member for outputting the rotation of said fourth rotary element to drive wheels of the vehicle;

wherein said first clutch and said second clutch each comprises friction members and a hydraulic servo for engaging said friction members;

wherein said automatic transmission provides at least five forward speeds and one reverse speed, and said first clutch and said second clutch are engaged together in fourth speed forward;

wherein said first planetary gear unit and said engaging means are located on one side of said second planetary gear unit;

wherein said hydraulic servo of the first clutch and said hydraulic servo of the second clutch are located on a side of said second planetary gear unit axially opposite said one side; and

wherein said output member is disposed between (1) said second planetary gear unit and (2) said first planetary gear unit and said engaging means.

42. (New) An automatic transmission for a vehicle comprising:

a rotatably driven input shaft;

a decelerating first planetary gear unit comprising an input rotary component that receives as input the rotation of said input shaft, a decelerated rotary component that rotates at a speed decelerated from the speed of rotation of the input rotary component and an intermediate component for transfer of rotation from said input rotary

component to said decelerated rotary component;

engaging means for controlling rotation of said input rotary component or the rotation of said intermediate component;

a second planetary gear unit comprising a first rotary element, a second rotary element, a third rotary element and a fourth rotary element, said second planetary gear unit receiving input of the decelerated rotation of said decelerated rotary component;

a first clutch for connecting and disconnecting said input shaft to and from said second rotary element;

a second clutch for connecting and disconnecting said input shaft to and from said third rotary element;

a brake for braking said second rotary element;

a one-way clutch for preventing rotation of said second rotary element in one direction; and

an output member for outputting the rotation of said fourth rotary element to drive wheels of the vehicle;

wherein said automatic transmission provides at least five forward speeds and one reverse speed, and said first clutch and said second clutch are engaged together in fourth speed forward;

wherein said first planetary gear unit and said engaging means are located on one side of said second planetary gear unit;

wherein said first clutch and said second clutch are located on a side of said second planetary gear unit axially opposite said one side;

wherein said brake and said one-way clutch are located outside of said second planetary gear unit;

wherein said brake is located on a side of said one-way clutch axially opposite said one side; and

wherein said output member is disposed between (1) said second planetary gear unit and (2) said first planetary gear unit and said engaging means.